EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	300	(physical adj layer adj transceiver)	US-PGPUB; USPAT	OR	ON	2007/01/16 18:12
S3	0	("622285220040030805").PN.	US-PGPUB; USPAT	OR	OFF	2007/01/16 16:33
S4	2	("6222852" "20040030805").pn.	US-PGPUB; USPAT	OR	ON	2007/01/16 17:36
S5	5	(single adj interface) with (multiple adj interface) same MAC	US-PGPUB; USPAT	OR	ON	2007/01/16 18:45
S6	407	(713/151).CCLS.	US-PGPUB; USPAT	OR	OFF	2007/01/16 17:05
S7	4	S6 and PHY and MAC	US-PGPUB; USPAT	OR	ON	2007/01/16 17:07
S8	708	380/255	US-PGPUB; USPAT	OR	ON	2007/01/16 17:07
S9	19	S6 and S8	US-PGPUB; USPAT	OR	ON	2007/01/16 17:25
S10	59	S6 and physical adj layer	US-PGPUB; USPAT	OR	ON	2007/01/16 17:25
S11	52	S6 and physical adj layer and (Crypto cryptography encipher encryption encoding encrypt)	US-PGPUB; USPAT	OR	ON	2007/01/16 17:27
S12	9	S6 and physical adj layer with (Crypto cryptography encipher encryption encoding encrypt)	US-PGPUB; USPAT	OR	ON	2007/01/16 17:27
S13	2	("20020080771" "20030206564"). pn.	US-PGPUB; USPAT	OR	ON	2007/01/16 17:36
S14	1	PHY adj communication adj module	US-PGPUB; USPAT	OR	ON	2007/01/16 18:39
S15	70	PHY adj communication	US-PGPUB; USPAT	OR	ON	2007/01/16 18:41
S16	22	master adj communication adj module	US-PGPUB; USPAT	OR	ON	2007/01/16 18:44
S17	1	S16 and PHY	US-PGPUB; USPAT	OR	ON	2007/01/16 18:44
S18	3	S16 and MAC	US-PGPUB; USPAT	OR	ON	2007/01/16 18:44
S19	149	(single adj interface) with (multiple adj interface)	US-PGPUB; USPAT	OR	ON	2007/01/16 18:46
S20	3	S19 and PHY	US-PGPUB; USPAT	OR	ON	2007/01/16 19:04
S21	215	Router same PHY same MAC	US-PGPUB; USPAT	OR	ON	2007/01/16 19:05

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S22	123	Router same PHY same MAC same interface	US-PGPUB; USPAT	OR	ON	2007/01/16 19:08
S23	66	S22 and (cryptography crypto encryption encoding)	US-PGPUB; USPAT	OR	ON	2007/01/16 19:08
S24	269	PHY with digital with analog	US-PGPUB; USPAT	OR	ON	2007/04/16 09:51
S25	40	PHY with digital with analog and (encryption crypto cryptography)	US-PGPUB; USPAT	OR	ON	2007/04/16 10:00
S26	1	("20050084076").PN.	US-PGPUB; USPAT	OR	OFF	2007/04/16 10:00
S27	139	link adj layer adj (security encryption crypto$7)	US-PGPUB; USPAT	OR	ON	2007/04/16 11:08
S28	1	("6134662").PN.	US-PGPUB; USPAT	OR	OFF	2007/04/16 11:10
S29	4	("20040076181" "20030126428" "6973566" "5689568").pn.	US-PGPUB; USPAT	OR	ON	2007/04/16 11:23
S30	1	("7155258").PN.	US-PGPUB; USPAT	OR	OFF	2007/04/16 11:24
S31	1	("20060059537").PN.	US-PGPUB; USPAT	OR	OFF	2007/04/16 11:27
S32	1	("20050213762").PN.	US-PGPUB; USPAT	OR	OFF	2007/04/16 11:33
S33	428	(713/151).CCLS.	US-PGPUB; USPAT	OR	OFF	2007/04/16 11:33
S34	436	(380/255).CCLS.	US-PGPUB; USPAT	OR	OFF	2007/04/16 12:56
S35	1750	(709/250).CCLS.	US-PGPUB; USPAT	OR	OFF	2007/04/16 11:33
S36	2593	S33 S34 S35	US-PGPUB; USPAT	OR	ON	2007/04/16 11:34
S37	161	S36 and PHY and MAC	US-PGPUB; USPAT	OR	ON	2007/04/16 11:49
S38	51	S37 and (encryption crypto$5 secyrity)	US-PGPUB; USPAT	OR	ON	2007/04/16 11:50
S39	10	((DANIEL) near2 (BIEDERMAN)).INV.	US-PGPUB; USPAT	OR	ON	2007/04/16 11:52
S40	10	((DANIEL) near2 (BIEDERMAN)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/16 11:52
S41	12	((LI-JAU) near2 (YANG)).INV.	US-PGPUB; USPAT	OR	ON	2007/04/16 11:53

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S42	12	((LI-JAU) near2 (YANG)).INV.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/16 11:53
S43	21	S40 S42	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/16 12:02
S44	269	(MDIO MDC) and PHY and MAC	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/04/16 12:09
S45	1	("6065073").PN.	US-PGPUB; USPAT	OR	OFF	2007/04/16 12:11
S46	1	("6222852").PN.	US-PGPUB; USPAT	OR	OFF	2007/04/16 12:13
S47	1	"20040030805"	US-PGPUB; USPAT	OR	ON	2007/04/16 12:24
S48	5345	("PHY" or "Physical layer transceiver") same ("MAC" or "Media access controller")	US-PGPUB; USPAT	OR	ON	2007/04/16 15:06
S49	251	S48 same (crypto$7 encrypt$3 authenticat$3)	US-PGPUB; USPAT	OR	ON	2007/04/16 12:25
S50	1	("20050084076").PN.	US-PGPUB; USPAT	OR	OFF	2007/04/16 13:00
S51	1471	(Router Modem) and PHY and (crypto$7 encrypt$3 authenticat$3)	US-PGPUB; USPAT	OR	ON	2007/04/16 13:01
S52	61	(Router Modem) same PHY same (crypto$7 encrypt$3 authenticat$3)	US-PGPUB; USPAT	OR	ON	2007/04/16 14:28
S53	961	PHY adj2 PHY	US-PGPUB; USPAT	OR	ON	2007/04/16 14:28
S54	1181	PHY adj3 MAC	US-PGPUB; USPAT	OR	ON	2007/04/16 14:28
S55	16	PHY adj3 MAC with (security encryption crypto$7)	US-PGPUB; USPAT	OR	ON	2007/04/16 14:32
S56	100	PHY with MAC with (security encryption crypto$7)	US-PGPUB; USPAT	OR	ON	2007/04/16 18:23

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S57	1	("20020128005").PN.	US-PGPUB; USPAT	OR	OFF	2007/04/16 14:37
S58	1	("7197052").PN.	US-PGPUB; USPAT	OR	OFF	2007/04/16 14:42
S59	1	("20030206564").PN.	US-PGPUB; USPAT	OR	OFF	2007/04/16 14:59
S60	1	("20040120301").PN.	US-PGPUB; USPAT	OR	OFF	2007/04/16 15:03
S61	1	("20050114663").PN.	US-PGPUB; USPAT	OR	OFF	2007/04/16 15:03
S62	4857	("PHY" or "Physical layer transceiver") with ("MAC" or "Media access controller")	US-PGPUB; USPAT	OR	ON	2007/04/16 15:07
S63	71	S62 with (crypto$7 encrypt$3 authenticat$3)	US-PGPUB; USPAT	OR	ON	2007/04/16 15:07
S64	28	PHY with MAC with (security encryption crypto$7)	USPAT	OR	ON	2007/04/16 18:23
S65	20	MDIO/MDC	US-PGPUB; USPAT	OR	ON	2007/04/17 10:04
S66	3109	(MDIO or Management adj data adj input adj output) or (MDC or Management adj data adj clock)	US-PGPUB; USPAT	OR	ON	2007/04/17 14:35
S67	105	S66 adj interface	US-PGPUB; USPAT	OR	ON	2007/04/17 10:06
S68	3109	(MDIO or Management adj data adj ((input adj output) or input/output)) or (MDC or Management adj data adj clock)	US-PGPUB; USPAT	OR	ON	2007/04/17 17:20
S69	105	S68 adj interface	US-PGPUB; USPAT	OR	ON	2007/04/17 10:08
S70	1	"20040030805"	US-PGPUB; USPAT	OR	ON	2007/04/17 10:51
S71	3	("6424194" 09/540243 "6389092" "6340899" 09/919636 09/860284 10/028806 09/969837 10/159788 10/179735).pn.	US-PGPUB; USPAT	OR	ON	2007/04/17 10:53
S72	94	"6424194" 09/540243 """6389092""" """6340899""" 09/919636 09/860284 10/028806 09/969837 10/159788 10/179735	US-PGPUB; USPAT	OR	ON	2007/04/17 10:54
S73	12	S72 and Scrambler	US-PGPUB; USPAT	OR	ON	2007/04/17 11:03
S74	1	10/676384	US-PGPUB; USPAT	OR	ON	2007/04/17 11:05
S75	2	"20050084076"	US-PGPUB; USPAT	OR	ON	2007/04/17 11:08

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S76	1	PHY with serial adj wire adj interface	US-PGPUB; USPAT	OR	ON	2007/04/17 11:34
S77	234	PHY with serial adj interface	US-PGPUB; USPAT	OR	ON	2007/04/17 11:37
S78	4	PHY with serial adj interface with communicate	US-PGPUB; USPAT	OR	ON	2007/04/17 11:38
S79	4	(PHY phsical adj layer adj transceiver) with serial adj interface with communicate	US-PGPUB; USPAT	OR	ON	2007/04/17 12:04
S80	516	S68 with control	US-PGPUB; USPAT	OR	ON	2007/04/17 12:04
S81	78	S80 with MAC	US-PGPUB; USPAT	OR	ON	2007/04/17 12:04
S82	6	S81 with PHY	US-PGPUB; USPAT	OR	ON	2007/04/17 12:04
S83	1	("5852609").PN.	US-PGPUB; USPAT	OR	OFF	2007/04/17 14:43
S84	1	("20040030805").PN.	US-PGPUB; USPAT	OR	OFF	2007/04/17 14:43
S85	148	S68 with (Crypto$7 encrypt$4 security secure$3 authentica$4)	US-PGPUB; USPAT	OR	ON	2007/04/17 18:00
S86	5	S68 with (Crypto$7 encrypt$4 security secure$3 authentica$4) and PHY	US-PGPUB; USPAT	OR	ON	2007/04/17 17:32
S87	1	("20040081424").PN.	US-PGPUB; USPAT	OR	OFF	2007/04/17 18:02
S88	0	cisco and MAC and PHY and (Crypto$7 encrypt$4 security secure$3 authentica$4)	DERWENT	OR	ON	2007/04/17 18:11
S89	8	cisco and MAC and PHY	DERWENT	OR	ON	2007/04/17 18:08
S90	215	cisco and MAC and PHY and (Crypto$7 encrypt$4 security secure$3 authentica$4)	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/17 18:15
S91	1241	router and MAC and PHY and (Crypto$7 encrypt$4 security secure$3 authentica$4)	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/17 18:15
S92	39	router and MAC and PHY and (Crypto$7 encrypt$4 security secure$3 authentica$4) and MDIO	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/17 18:25
S93	8	IPsec and MAC and PHY and (Crypto$7 encrypt$4 security secure$3 authentica$4) and MDIO	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/17 18:35
S94	1	("6708218").PN.	US-PGPUB; USPAT	OR	OFF	2007/04/17 18:36

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S95	1	("7110398").PN.	US-PGPUB; USPAT	OR	OFF	2007/04/18 12:51
S96	8	(crypto cryptography encryption encoding security) with (physical adj layer adj transceiver)	US-PGPUB; USPAT	OR	ON	2007/04/18 13:34
S97	724	(crypto cryptography encryption encoding security) with ((physical adj layer adj transceiver) OR PHY)	US-PGPUB; USPAT	OR	ON	2007/04/18 13:35
S98	430	(713/151).CCLS.	US-PGPUB; USPAT	OR	OFF	2007/04/18 13:35
S99	437	(380/255).CCLS.	US-PGPUB; USPAT	OR	OFF	2007/04/18 13:35
S100	1751	(709/250).CCLS.	US-PGPUB; USPAT	OR	OFF	2007/04/18 13:35
S101	2597	S98 S99 S100	US-PGPUB; USPAT	OR	ON	2007/04/18 13:35
S102	29	S97 and S101	US-PGPUB; USPAT	OR	ON	2007/04/18 13:35

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S103	99	(("6842481") or ("6911948") or ("5978853") or ("6654373") or ("6011799") or ("6704296") or ("6859825") or ("5754540") or ("6134662") or ("4951280") or ("6229817") or ("5023872") or ("6408347") or ("5235593") or ("6385669") or ("5363379") or ("6011781") or ("5394390") or ("6937571") or ("5487152") or ("5636140") or ("5511166") or ("5768695") or ("5513320") or ("5809249") or ("5600799") or ("6049837") or ("5608869") or ("6400695") or ("5619651") or ("6651107") or ("5619652") or ("6687757") or ("5892768") or ("6741551") or ("5953345") or ("5809026") or ("5995514") or ("5969646") or ("6069897") or ("6058427") or ("6094441") or ("6060890") or ("6097732") or ("6081523") or ("6104236") or ("6094439") or ("6108726") or ("6114922") or ("6130894") or ("6205490") or ("6141352") or ("6243426") or ("6150875") or ("6260167") or ("6169742") or ("6516952") or ("6222852") or ("6556589") or ("6222852") or ("5892926") or ("6266350") or ("6421735") or ("6269104") or ("6108301") or ("6275498") or ("6115364") or ("6275501") or ("6906426") or ("6295280") or ("5007089") or ("6363432") or ("5671283") or ("6385208") or ("6438367") or ("6385738") or ("6535545") or ("6430695") or ("6650616") or ("6493647") or ("5185863") or ("6510150") or ("5483536") or ("6529961") or ("6363257") or ("6614372") or ("6539207") or ("6631138") or ("6580700") or ("6636499") or ("6754170") or ("6654796") or ("6795450") or ("6675335") or ("6799247") or ("6694394") or ("6812891") or ("6718417") or ("6873611") or ("6760347")).PN.	US-PGPUB; USPAT	OR	OFF	2007/04/25 10:40
S104	94	S103 and (MAC "media access control")	US-PGPUB; USPAT	OR	ON	2007/04/25 10:40

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S105	92	S103 and (MAC "media access control") and (PHY "Physical layer transceiver")	US-PGPUB; USPAT	OR	ON	2007/04/25 10:41
S106	20	S103 and (MAC "media access control") and (PHY "Physical layer transceiver") and (MDIO MDC)	US-PGPUB; USPAT	OR	ON	2007/04/25 10:41

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An apparatus for providing link layer **security** in a Physical Layer Transceiver (**PHY**) (Fig. 3, 305) is disclosed. apparatus may comprise analog circuitry (Fig. 3, 330) configured to interface with a data transmission medium, configured to interface with a Media Access Controller (**MAC**) (Fig. 3, 310); and a crypto engine (Fig. 3, 340) cc Single interface and multiple interface schemes are provided to control both **PHY** and crypto functions. Embodi the **PHY** controls the crypto device, and where the crypto device controls the **PHY**.

2.	(WO 2005/034410) METHOD AND APPARATUS OF INTEGRATING LINK LAYER **SECURITY** INTO A PHYSICAL LAYER TRANSCEIVER	14.04.2005	H

An apparatus for providing link layer **security** link layer **security** in a Physical Layer Transcevier (**PHY**) is discl the apparatus may comprise analog circuitry configured to interface with a data transmission medium, digital ci interface with a Media Access Controller (**MAC**); and a crypto engine coupled to the digital circuitry.

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YD Lin, WM Yin, CY Huang - IEEE Communications Surveys, Third Quarter, 2000 - comsoc.org
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... and 1.376 seconds, respectively, and (ii) DES **encryption**/decryptioncan be ... Correspondingly, wireless LAN protocols define **link-layer security** proto- cols (eg ...
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P Michiardi, R Molva - Ad Hoc Networking, IEEE Press Wiley, New York, 2003 - nile.usc.edu
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R Molva, P Michiardi - Invited Paper in Personal Wireless Communication (PWC'03), ..., 2003 - Springer
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Using the Fluhrer, Mantin, and Shamir Attack to Break WEP - group of 85 »
A Stubblefield, J Ioannidis, AD Rubin - Proceedings of the 2002 Network and Distributed Systems ..., 2002 - barbedwires.com
... The reasons are that SSL pre-processes the **encryption** key and IV by hashing with both MD5 ... access control (**MAC**) and physical layer (**PHY**) specifications ...
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Security mechanisms for wireless home network
J Zhuge, R Yao - Global Telecommunications Conference, 2003. GLOBECOM'03. ..., 2003 - ieeexplore.ieee.org
... common and applicable to all **PHY/MAC** standards developed ... etc or other new developed **MAC** solutions ... allows for choosing of various **encryption**, hashing algorithms ...
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Methods and systems for creating an Ethernet upstream and a DOCSIS downstream packet by

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G GRAND, NR PANTELIAS, RJ LEE, M ZELNICK, FJ GOMEZ - EP Patent 1,225,749, 2002 - freepatentsonline.com
... **PHY** device 410 interfaces with **MAC** 405 through an ... along with **PHY** prepend data from **PHY** device 410 ... Interface 415 extracts **encryption** information from the DOCSIS ...
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Packet tag for support of remote network function/packet classification
G Grand, NR Pantelias, RJ Lee, M Zelnick, FJ Gomez - 2002 - freepatentsonline.com
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JP Craiger - GIAC Security Essentials Certification Practical Assignment. ..., 2002 - giac.org
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Keywords: AES, wireless sensor network security

2 Services: TinySec: a link layer security architecture for wireless sensor networks

Chris Karlof, Naveen Sastry, David Wagner

November 2004 **Proceedings of the 2nd international conference on Embedded networked sensor systems SenSys '04**

Publisher: ACM Press

Full text available: pdf(316.88 KB) Additional Information: full citation, abstract, references, citings, index terms

We introduce TinySec, the first fully-implemented link layer security architecture for wireless sensor networks. In our design, we leverage recent lessons learned from design vulnerabilities in security protocols for other wireless networks such as 802.11b and GSM. Conventional security protocols tend to be conservative in their security guarantees, typically adding 16--32 bytes of overhead. With small memories, weak processors, limited energy, and 30 byte packets, sensor networks cannot affo ...

Keywords: link layer security, sensor network security

3 Wireless network security I: Common data security network (CDSN)

Aftab Ahmad, Mona El-Kadi Rizvi, Stephan Olariu

October 2005 **Proceedings of the 1st ACM international workshop on Quality of service & security in wireless and mobile networks Q2SWinet '05**

Publisher: ACM Press

Full text available: pdf(287.12 KB) Additional Information: full citation, abstract, references, index terms

We present the idea of using a separate network that processes and enforces security in a data network. We briefly discuss various components of such a network, called common data security network (CDSN). We use the example of the IEEE 802.11i to determine one of the link level metrics of the proposed network, the fractional overhead for IEEE 802.1X and temporal key integrity protocol (TKIP).

Keywords: IEEE 802.11i, TKIP, common data security, security architecture, security plane, wireless LANs

4 Deployment and testbeds: Enhancement of a WLAN-based internet service in Korea

Youngkyu Choi, Jeongyeup Paek, Sunghyun Choi, Go Woon Lee, Jae Hwan Lee, Hanwook Jung

September 2003 **Proceedings of the 1st ACM international workshop on Wireless mobile applications and services on WLAN hotspots WMASH '03**

Publisher: ACM Press

Full text available: pdf(774.23 KB) Additional Information: full citation, abstract, references, index terms

A wireless LAN (WLAN)-based Internet service, called NESPOT, of Korea Telecom (KT), the biggest telecommunication and Internet service company in Korea, has been operational since early 2002. As the numbers of subscribers and deployed access points (APs) increase, KT has been endeavoring to improve its service quality as well as the network management. In this paper, we introduce a joint effort between Seoul National University (SNU) and KT to achieve it. We have been addressing two major issues ...

Keywords: IEEE 802.11, LAN, hotspot service, wireless internet service provider (WISP)

5 Enhancement of a WLAN-based internet service

Youngkyu Choi, Sekyu Park, Sunghyun Choi, Go Woon Lee, Jaehwan Lee, Hanwook Jung

June 2005 **Mobile Networks and Applications**, Volume 10 Issue 3

Publisher: Kluwer Academic Publishers

Full text available: pdf(2.62 MB) Additional Information: full citation, abstract, references, index terms

A wireless LAN (WLAN)-based Internet service, called NESPOT, of Korea Telecom (KT), the biggest telecommunication and Internet service company in Korea, has been operational since early 2002. As the numbers of subscribers and deployed access points (APs) increase, KT has been endeavoring to improve its service quality as well as the network management. In this paper, we introduce a joint effort between Seoul National University (SNU) and KT to achieve it. We have been addressing two major issues ...

Keywords: IEEE 802.11, WLAN, hotspot service, wireless internet service provider (WISP)

6 Securing wireless applications: ESCORT: a decentralized and localized access control system for mobile wireless access to secured domains

Jiejun Kong, Shirshanka Das, Edward Tsai, Mario Gerla

September 2003 **Proceedings of the 2003 ACM workshop on Wireless security WiSe '03**

Publisher: ACM Press

Full text available: pdf(401.72 KB) Additional Information: full citation, abstract, references, citings, index terms

In this work we design and implement ESCORT, a *backward compatible*, *efficient*, and *secure* access control system, to facilitate mobile wireless access to secured wireless LANs. In mobile environments, a mobile guest may frequently roam into foreign domains while demanding critical network services. ESCORT provides instant yet secure access to the mobile guest based on the concept of "*escort*", which refers to a special network object with four distinct properties: (1) T ...

Keywords: decentralized access control, identity privacy, location privacy, mobile privacy, wireless security

7 Security analysis: Security considerations for IEEE 802.15.4 networks

Naveen Sastry, David Wagner

October 2004 **Proceedings of the 2004 ACM workshop on Wireless security WiSe '04**

Publisher: ACM Press

Full text available: pdf(175.00 KB) Additional Information: full citation, abstract, references, citings, index terms

The IEEE 802.15.4 specification outlines a new class of wireless radios and protocols targeted at low power devices, personal area networks, and sensor nodes. The specification includes a number of security provisions and options. In this paper, we highlight places where application designers and radio designers should exercise care when implementing and using 802.15.4 devices. Specifically, some of the 802.15.4 optional features actually reduce security, so we urge implementors to ignore those ...

Keywords: IEEE 802.15.4, link layer security, sensor networks

8 A key recovery attack on the 802.11b wired equivalent privacy protocol (WEP)

Adam Stubblefield, John Ioannidis, Aviel D. Rubin

May 2004 **ACM Transactions on Information and System Security (TISSEC)**, Volume 7 Issue 2

Publisher: ACM Press

Full text available: pdf(207.38 KB) Additional Information: full citation, abstract, references, citings, index terms

In this paper, we present a practical key recovery attack on WEP, the link-layer security protocol for 802.11b wireless networks. The attack is based on a partial key exposure vulnerability in the RC4 stream cipher discovered by Fluhrer, Mantin, and Shamir. This paper describes how to apply this flaw to breaking WEP, our implementation of the attack, and optimizations that can be used to reduce the number of packets required for the attack. We conclude that the 802.11b WEP standard is completely ...

Keywords: Wireless security, wired equivalent privacy

9 Editorial zone: Medium access control issues in sensor networks

Muneeb Ali, Umar Saif, Adam Dunkels, Thiemo Voigt, Kay Römer, Koen Langendoen, Joseph Polastre, Zartash Afzal Uzmi

April 2006 **ACM SIGCOMM Computer Communication Review**, Volume 36 Issue 2

Publisher: ACM Press

Full text available: pdf(112.31 KB) Additional Information: full citation, abstract, references, index terms

Medium access control for wireless sensor networks has been a very active research area for the past couple of years. The sensor networks literature presents an alphabet soup of medium access control protocols with almost all of the works focusing only on energy efficiency. There is much more innovative work to be done at the MAC layer, but current efforts are not addressing the hard unsolved problems. Majority of the works appearing in the literature are "least publishable incremental improveme ...

Keywords: medium access control, wireless sensor networks

10 Survey and benchmark of block ciphers for wireless sensor networks

Yee Wei Law, Jeroen Doumen, Pieter Hartel

February 2006 **ACM Transactions on Sensor Networks (TOSN)**, Volume 2 Issue 1

Publisher: ACM Press

Full text available: pdf(354.39 KB) Additional Information: full citation, abstract, references, index terms

Cryptographic algorithms play an important role in the security architecture of wireless sensor networks (WSNs). Choosing the most storage- and energy-efficient block cipher is essential, due to the facts that these networks are meant to operate without human intervention for a long period of time with little energy supply, and that available storage is scarce on these sensor nodes. However, to our knowledge, no systematic work has been done in this area so far. We construct an evaluation framew ...

Keywords: Sensor networks, block ciphers, cryptography, energy efficiency

11 Exploiting path diversity in mobile systems: Divert: fine-grained path selection for wireless LANs

Allen Miu, Godfrey Tan, Hari Balakrishnan, John Apostolopoulos

June 2004 **Proceedings of the 2nd international conference on Mobile systems, applications, and services MobiSys '04**

Publisher: ACM Press

Full text available: pdf(913.28 KB) Additional Information: full citation, abstract, references, citings, index terms

The performance of Wireless Local Area Networks (WLANs)often suffers from link-layer frame losses caused by noise, interference, multipath, attenuation, and user mobility. We observe that frame losses often occur in bursts and that three of the five main causes of frame losses -- multipath, attenuation, mobility--depends on the transmission path traversed between an access point (AP)and a client station.In a typical WLAN deployment, different transmission paths to a client exist in places where ...

Keywords: 802.11, mobile systems, path diversity, wireless LAN

12 Intercepting mobile communications: the insecurity of 802.11

Nikita Borisov, Ian Goldberg, David Wagner

July 2001 **Proceedings of the 7th annual international conference on Mobile computing and networking MobiCom '01**

Publisher: ACM Press

Full text available: pdf(181.52 KB) Additional Information: full citation, abstract, references, citings, index terms

The 802.11 standard for wireless networks includes a Wired Equivalent Privacy (WEP) protocol, used to protect link-layer communications from eavesdropping and other attacks. We have discovered several serious security flaws in the protocol, stemming from misapplication of cryptographic primitives. The flaws lead to a number of practical attacks that demonstrate that WEP fails to achieve its security goals. In this paper, we discuss in detail each of the flaws, the underlying security princip ....

13 Features: The Family Dynamics of 802.11

May 2003 **Queue**, Volume 1 Issue 3

Publisher: ACM Press

Full text available: pdf(622.71 KB) html(41.31 KB) Additional Information: full citation, citings, index terms

14 Mobility, roaming, and handoff: Network selection and discovery of service information in public WLAN hotspots

Yui-Wah Lee

October 2004 **Proceedings of the 2nd ACM international workshop on Wireless mobile applications and services on WLAN hotspots WMASH '04**

Publisher: ACM Press

Full text available: pdf(276.09 KB) Additional Information: full citation, abstract, references, citings, index terms

In a public WLAN hotspot, a roaming mobile terminal (MT) may be within radio range of more than one access point (AP), each of which may or may not have roaming agreements with the service provider of the user of the MT. In this case, the MT may need to discover some service information before it can make an intelligent network-selection decision. The most critical is roaming information; while other information such as security policies< ...

Keywords: Wi-Fi, discovery of service information, network selection, public WLAN hotspots, roaming

15 Shake 'em, but don't crack 'em: Shake them up!: a movement-based pairing protocol for CPU-constrained devices

Claude Castelluccia, Pars Mutaf

June 2005 **Proceedings of the 3rd international conference on Mobile systems, applications, and services MobiSys '05**

Publisher: ACM Press

Full text available: pdf(295.02 KB) Additional Information: full citation, abstract, references, citings

This paper presents a new pairing protocol that allows two CPU-constrained wireless devices Alice and Bob to establish a shared secret at a very low cost. To our knowledge, this is the first software pairing scheme that does not rely on expensive public-key cryptography, out-of-band channels (such as a keyboard or a display) or specific hardware, making it inexpensive and suitable for CPU-constrained devices such as sensors.

In the described protocol, Alice can send the secre ...

Results 1 - 15 of 15